

# E-MANIFEST: AN UPDATE ON IMPLEMENTATION

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## HEARING

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT AND THE  
ECONOMY

OF THE

COMMITTEE ON ENERGY AND  
COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTEENTH CONGRESS

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## **E-MANIFEST: AN UPDATE ON IMPLEMENTATION**

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**TUESDAY, OCTOBER 27, 2015**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY,  
COMMITTEE ON ENERGY AND COMMERCE  
*Washington, DC.*

The subcommittee met, pursuant to call, at 10:15 a.m., in room 2322 Rayburn House Office Building, Hon. John Shimkus (chairman of the subcommittee) presiding.

Members present: Representatives Shimkus, Harper, Murphy, Latta, McKinley, Johnson, Bucshon, Flores, Hudson, Tonko, Schrader, Green, and Pallone (ex officio).

Staff present: Will Batson, Legislative Clerk; Jerry Couri, Senior Environmental Policy Advisor; A.T. Johnston, Senior Policy Advisor; David McCarthy, Chief Counsel, Environment and Economy; Tina Richards, Counsel, Environment; Chris Sarley, Policy Coordinator, Environment and Economy; Dan Schneider, Press Secretary; Christine Brennan, Press Secretary; Jacqueline Cohen, Senior Counsel; Timia Crisp, AAAS Fellow; Rick Kessler, Senior Advisor and Staff Director, Energy and Environment; and Alexander Ratner, Policy Analyst.

Mr. SHIMKUS. I am going to call the hearing to order. And before I recognize myself, I want to mention a few things on this week's activities and schedule. This is a very busy and historic week. And full House representatives, as we know, we also have important work to do in the subcommittee. Today, we are finally giving our friends of the EPA a chance to provide their progress report on the e-Manifest program. The Agency has waited patiently as we have been compelled to postpone today's hearing twice for scheduling reasons beyond our control. But today is finally here and we have always planned we will hear from a single witness and only one panel. As the testimony submitted has not changed from the first scheduled time for this hearing, our questions will be pretty much the same as well.

Tomorrow, we have two activities: a hearing on the management of low level nuclear waste and a subcommittee mark-up of the Senate's rural water technical assistance authorization. The hearing is an important step as we all study the intricacies of the entire nuclear waste issue. This is another in a series designed to give members a sound understanding of all the facts of this challenge so that we are on solid footing to act legislatively when that time comes.

Finally, at the request of Mr. Pallone, we will give subcommittee members a chance to vote on the Senate Rural Water Technical As-

sistance Bill. This is a bill we had a hearing on last week in which passed the Senate unanimously. If we can see clearly to pass it without amendment on a strong bipartisan basis, we can make it into law. And in doing so, we must thank subcommittee Ranking Member, Mr. Tonko, and our Vice Chair Mr. Harper, for their leadership in getting us this far on the rural water technical assistance.

To my knowledge, there is no substantive opposition to the bill and most, if not all, look forward to helping our constituents by advancing the bill to the President without amendment.

I am proud of the subcommittee members. We work hard in the subcommittee in a bipartisan spirit. We have much work left to accomplish in this Congress, so I am glad members are willing to maintain this consistent level of effort to achieve that. And I just wanted to make sure that we started understanding that we are pushing it pretty hard on the subcommittee.

So with that, I would like to recognize myself for 5 minutes for an opening statement.

The subcommittee is in order.

#### **OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS**

Mr. SHIMKUS. This morning's hearing focuses our panels on EPA's implementation of the electronic program to receive, store, and make publicly available manifests of hazardous waste. Creation of this system has been something that EPA, the regulated industry, and environmental advocacy groups have supported for quite some time as a way of modernizing the carbon copied, paper clogged system in place.

Three years ago, enthusiasm was high for taking this Solid Waste Disposal Act requirement into the 21st Century. In September 2012, Congress came together with solid bipartisan majorities to permit EPA to collect the fee needed to set up the system EPA wanted to operate. I think we all believed that not only would EPA be able to continue tracking hazardous waste destined for treatment, storage, or disposal; but the new system provided the collateral benefits of increased transparency, access to critical information for first responders, reduced reporting errors, and greater accountability of waste management.

EPA asked for, and we gave them, 3 years to get the system up and running. Working through some thorny funding concerns, we authorized the money to make this happen. There was no reason to believe the system would not be operational within that time frame.

That was then.

Three weeks ago, yesterday, marked 3 years from the date of enactment of the Hazardous Waste Electronic Manifest Act. Under the law, EPA was supposed to have moved from the system creation phase to its actual deployment. But, the system is not ready for "prime time."

Moreover, while EPA has been given \$7.4 million to get this system going—\$1.4 million more than Congress authorized through fiscal year 2015, the President's fiscal year 2016 budget request now calls for another \$7.4 million to finish building the system.

Yet, because the law assumed EPA would have the system working by now, the law's authorization has expired and its user fees are unavailable until the electronic manifest system is working. We all know there isn't spare federal money lying around and it is an easy disqualifier for further funding if there is not a current authorization.

If this system is going to survive, it is up to the Agency to help us get to the bottom of what is going on here and, if merited, make the case to others that e-Manifest's launch needs further authorization and more funding. I know EPA hasn't been sitting on its hands the last 3 years, but we need a full accounting of what it has been doing and what still needs to be done. Ultimately, we need to know why it is taking so long, why it is costing so much, and when, if EPA does get its requested funding, will this system actually be usable.

I welcome our witness from the Environmental Protection Agency, Barnes Johnson. I appreciate your coming up here to share your experience and insight on the Agency's efforts. We are glad that you are here and hope you will see us as a partner in trying to make the system run well.

[The prepared statement of Mr. Shimkus follows:]

#### PREPARED STATEMENT OF HON. JOHN SHIMKUS

The Subcommittee will now come to order.

This morning's hearing focuses our panel on EPA's implementation of an electronic program to receive, store, and make publicly available manifests of hazardous waste. Creation of this system has been something that EPA, the regulated industry, and environmental advocacy groups have supported for quite some time as a way of modernizing the carbon copied, paper clogged system in place.

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I welcome our witness from the Environmental Protection Agency, Barnes Johnson. I appreciate you coming up here to share your experience and insight on the Agency's efforts. We are glad that you are here and hope you will see as a partner in trying to make the system run well.

I will now yield 5 minutes to the Ranking Member of the Subcommittee, the gentleman from New York, Mr. Tonko, for the purpose of providing an opening statement.

Mr. SHIMKUS. I will now see if any other member on our side wants any time. Seeing none, I now yield back my time and yield to the Ranking Member, Mr. Tonko, for 5 minutes.

**OPENING STATEMENT OF HON. PAUL TONKO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK**

Mr. TONKO. Thank you, Mr. Chairman. Good morning. Thank you and welcome, Mr. Johnson, for testifying before the committee this morning. I believe we all agree that an electronic system for tracking hazardous materials will promote greater safety and more accurate record keeping and certainly lower costs.

The Agency appears to be moving forward steadily to meet the requirements of the 2012 legislation and to get the system up and running. And I look forward to hearing more about the status of this program. And again, thank you, for your testimony, Director Johnson.

Since I still have a few minutes I believe I have to express my disappointment that the subcommittee is holding a hearing on this topic. There are many more pressing issues that require our attention, like drinking water infrastructure, brownfields, environmental justice, emergency environmental response, chemical security, electronic waste, just to name a few topics.

We have spoken often enough for you to know that drinking water infrastructure is at the top of my list. There are serious threats to drinking water, systems in towns and cities across our great country. With the exception of the problem in Toledo, Ohio, we have never held hearings on the problems related to source water quality, contamination, drought, or emergency response procedures. Instead, we are spending and investing our time here examining the e-Manifest program, a program that I believe is underway, has received adequate funding to make progress and that it is moving forward at a steady pace. I wish other programs were doing as well.

I realize this committee had a concern about whether the appropriators would continue to fund the e-Manifest program adequately in the next fiscal year. But at this point, it is clear that we are not going to pass a free standing Interior Appropriations Bill. That is a benefit, in my view, because the bill has too many cuts to vital programs and too many bad policy riders. That bill offered funding far too low to meet real domestic needs. Lack of adequate funding is an issue for all programs, not just e-Manifest.

The proposed Interior Appropriations Bill cut more than \$700 million, as compared to this year's funding for EPA. Much of that comes from the state and tribal assistance grants, money that goes to the states and to local governments to ensure that we have clean air and have clean water. The Appropriations Committee proposed



a cut to the Drinking Water Revolving Loan Fund of some \$150 million. That is compared to this year's funding. It is \$429 million lower than the President's request. This cut stands in stark contrast to current infrastructure assessments and to what we have heard from witnesses about the needs of water utilities at the two hearings we did hold on drinking water technical assistance programs.

We should be exploring solutions that will help public water systems that are struggling with the tremendous backlog of work. Continuing to provide clean, safe, affordable drinking water to everyone in our nation is essential, essential for public health for a given purpose and for economic prosperity. There is very little time left in this first session. There are challenges common to all of our districts. e-Manifest does not come close to being on that topic of lists. I hope the subcommittee will take up some of our other big issues, our bigger issues that are of concern to all of our constituents. Working together productively, we can deliver progress on many issues and create jobs in the process. Members on our side of the aisle are anxious to do that.

And with that, I again thank you, Director Johnson, for appearing before the subcommittee today. Thank you for your work to get the e-Manifest program moving forward and I look forward to your comments.

Mr. SHIMKUS. The gentleman yields back his time. Just for my colleague, you know that e-Manifest is my legislative baby, don't you? Right?

So I would like to turn now to the vice chairman of the committee, Mr. Harper, for 5 minutes for an opening statement. Do you have any? OK. Anybody else on the Republican side? Anyone on the Democrat side? No. Seeing none, we would like to welcome Mr. Johnson from the EPA here. Your full testimony is entered in the record. You have 5 minutes, and obviously, we are not going to be stringent on the time, just we look forward to hearing you and as we talk about this discussion on the e-Manifest, welcome, and you are recognized for 5 minutes.

**STATEMENT OF BARNES JOHNSON, DIRECTOR, OFFICE OF RESOURCE CONSERVATION AND RECOVERY, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, U.S. ENVIRONMENTAL PROTECTION AGENCY**

Mr. JOHNSON. Good morning, Mr. Chairman and members of the subcommittee. I am Barnes Johnson, Director of the Office of Resource Conservation and Recovery in the Office of Solid Waste and Emergency Response. I am pleased to be here today to discuss our efforts to develop an e-Manifest system. I want to thank you, Chairman Shimkus, and members of the House Energy and Commerce Committee, for their successful bipartisan efforts to help enact e-Manifest legislation.

Subtitle C of the Resource Conservation Recovery Act requires that EPA establish a manifest system to ensure that when hazardous waste leaves its point of generation, it arrives safely at a designated, permitted hazardous waste management facility. The manual processing steps associated with the current paper based manifest system add up to a significant paperwork burden.

As you know, the Hazardous Waste Electronic Manifest Establishment Act was signed into law more than 3 years ago on October 5, 2012. The Act directs the EPA to establish and implement an electronic manifest system. There are significant benefits to an e-Manifest system, both in cost savings and program efficiencies. EPA's projected e-Manifest system that handles 75 percent of the current manifest traffic could result in an annual net savings that exceeded \$75 million.

A number of other significant benefits are also expected. An e-Manifest will produce better quality data and more timely information on waste shipments, make it possible to have improved tracking capabilities for waste shipments, and users will be able to rely on the national electronic system for manifest data reporting.

The Agency has been moving forward on key actions to implement the Act. The EPA has developed system architecture plans that focus on major assets of the e-Manifest system. The EPA worked extensively with commercial users on identifying and addressing their issues. The EPA has also met regularly with our state partner organizations. To realize significant benefits of an e-Manifest system, a broad range of private and public sector stakeholders must use it. And to help ensure that use, a system must meet stakeholder needs.

To accomplish this, the Agency is relying heavily on available off-the-shelf software modules conducting user-centered design development and is using agile software development methodologies. This approach embodies continuous improvement through iterative development of operating software and testing and continued, regular engagement with users and stakeholders throughout the process to provide on-going opportunities for input.

In September 2015, the EPA, in partnership with GSA, completed an initial system demonstration. This focused on a key aspect of the system, the transaction at the end of the chain of custody when hazardous waste arrives at the designated waste management facility and that facility signs the electronic manifest to verify that all hazardous waste types and quantities were received.

Getting the system to properly, electronically execute this all important manifest transaction was an important first step for us. The EPA worked with several industry users to complete this initial system functionality.

The Agency will add more functionality in an incremental manner via modular contracting strategy. Research has shown that using this type of lean start-up methodology with agile techniques lowers the cost of current and future system development by addressing uncertainties sooner rather than later. By spring of 2018, EPA expects to have fully deployed a working e-Manifest system and to be collecting user fees to pay operation and maintenance costs.

Besides system development, the Agency has also made progress developing regulations to support the new program. The EPA published a final regulation in February of 2014 authorized electronic manifests and we are working towards a proposed user fee regulation that is quite far along.

In addition, the e-Manifest Advisory Board was established in August when EPA submitted a charter to Congress. The EPA ap-

preciates the support of Congress in enacting legislation to authorize development in an electronic waste management system and looks forward to continued support to allow for further development, completion of a hazardous waste e-Manifest system. We are committed to keeping Congress informed of our progress.

Mr. Chairman, that concludes my prepared statement. I will be happy to answer any questions that you or the subcommittee members may have about EPA's development of an e-Manifest system.

[The prepared statement of Mr. Johnson follows:]

**STATEMENT OF BARNES JOHNSON  
DIRECTOR, OFFICE OF RESOURCE CONSERVATION AND RECOVERY  
OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
BEFORE THE SUBCOMMITTEE ON  
ENVIRONMENT AND ECONOMY  
COMMITTEE ON ENERGY AND COMMERCE  
U.S. HOUSE OF REPRESENTATIVES**

**October 9, 2015**

Good morning, Mr. Chairman and Members of the Subcommittee. I am Barnes Johnson, Director of the Office of Resource Conservation and Recovery within the U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response. I am pleased to be here today to discuss the EPA efforts necessary to establish a national electronic manifest system, or e-Manifest, to track hazardous waste shipments more effectively and efficiently.

I will summarize the current process used to track hazardous waste shipments under RCRA, established by the EPA and the Department of Transportation (DOT) 30 years ago. In addition, I will describe EPA's efforts to revise and modernize the manifest system by establishing a national e-Manifest system that will enable transition of the manifest system from one that is paper-intensive and more burdensome than it should be, to a system that will rely on information technology to track waste shipments.

I want to thank Chairman Shimkus and Members of the House Energy and Commerce Committee for their successful bipartisan efforts to help enact e-Manifest legislation.

**HAZARDOUS WASTE CONTROL AND THE RCRA MANIFEST SYSTEM**

Subtitle C of the Resource Conservation and Recovery Act establishes the statutory framework for the regulation of hazardous wastes. The EPA has developed a comprehensive regulatory system prescribing “cradle-to-grave” controls on the generation, transportation, storage, and disposal of hazardous waste. As a threshold level of protection, Subtitle C of RCRA requires that the EPA establish a manifest system to ensure that when a hazardous waste leaves its point of generation it arrives safely at a designated permitted hazardous waste facility. The manifest system was the answer to frequent episodes of “midnight dumping” in the hazardous waste transportation and management industries.

The manifest implements the very important function in our “cradle-to-grave” hazardous waste management system of documenting that the hazardous waste shipments that originate at a specific “cradle” or generator site arrive intact at the selected “grave” or waste management facility. The manifest collects information about the quantity, composition, origin, and destination of all hazardous waste shipments. The manifest also documents the actual chain of custody for a waste shipment, by recording in turn the signatures of the generator, the transporters, and the receiving facility responsible for treating, storing, and disposing of the waste.

Under Section 3003(b) of RCRA, EPA’s hazardous waste transportation regulations must be consistent with certain Department of Transportation regulations. This requirement exists to minimize duplication and ensure consistency between RCRA’s hazardous waste transportation requirements and DOT’s hazardous materials regulations. EPA’s manifest

requirements have been coordinated with DOT, with the result that completing a hazardous waste manifest also assures compliance with DOT's requirements for completing a hazardous materials shipping paper.

The manifest requirements, which were jointly developed by EPA and DOT, require the use of the Uniform Manifest for the tracking of all hazardous waste shipments that are transported to an off-site destination facility for management. The Uniform Manifest is a multi-copy form that generators of hazardous waste must first complete before hazardous wastes can be delivered to a transporter for shipment off-site. The generator is responsible for entering information that describes its hazardous wastes and identifies the transporters and the waste management facility that will receive such waste.

The manifest form is then physically carried with the waste shipment. The form documents the change of custody that occurs during transportation; a signature is obtained from each waste handler receiving custody. Each waste handler that signs the manifest must also retain a signed copy of the form among its company records to document its compliance. Finally, when the hazardous waste arrives at the designated waste management facility, that facility must sign the manifest and either verify that all the hazardous waste types and quantities were received, or identify any discrepancies. This final copy verifying receipts must then be sent back to the generator, so that the generator receives confirmation of receipt by the designated facility.

Since the states are the primary implementers of the hazardous waste program, a number of authorized states also require submission to the state of one or more manifest copies so that the data may be entered into the state's tracking systems. There are currently 24

states that collect manifest copies, and use manifest data for program management, revenue collection, and enforcement purposes. The states that collect manifest copies generally enter the data manually into their tracking systems.

All of the manual processing steps described above add up to a significant paperwork burden. We estimate that each year, hazardous waste generators prepare about 3 to 5 million manifest forms, and that the completion and processing of these forms results in an annual paperwork burden of between 300,000 and 700,000 hours.

#### **STATUTORY AUTHORITY**

The Hazardous Waste Electronic Manifest Establishment Act was signed into law on October 5, 2012. The Act directs the EPA to establish and implement an electronic manifest system designed to track hazardous waste shipments that may be used by any user. The Act also requires the EPA to issue a regulation authorizing use of electronic manifests, and to establish a user fee for the system, as well as to establish a System Advisory Board to advise the EPA on system performance and user fees. In addition, the EPA must conduct annual Inspector General (IG) audits, and submit biennial reports to Congress.

An e-Manifest system extends to all federal and state regulated wastes requiring manifests. The Act authorizes the EPA to collect reasonable user fees for all system-related costs including development and maintenance. The Act requires the EPA to establish a uniform effective date in all states for e-Manifest, and the EPA must implement e-Manifest until states are authorized. Pursuant to the Act, an electronic

manifest approach will remain voluntary and the paper manifest would remain available for those entities that prefer to track their hazardous waste shipments with existing forms.

#### **BENEFITS of an E-MANIFEST SYSTEM**

There is a consensus in both the public and private sectors that there are significant benefits to an e-Manifest system -- both in cost savings and program efficiencies for the regulated community and regulators. One benefit of moving to an e-Manifest system is the cost savings that will accrue to manifest users in the hazardous waste industry and to the state agencies that collect manifests and process their data. When the EPA began analyzing the business case for the e-Manifest a number of years ago, we projected that an e-Manifest system that handled 75% of the current manifest traffic electronically could result in annual net savings that exceed \$75 million to users and to state agencies.<sup>1</sup> These cost savings result primarily from eliminating most of the manual processing steps that are necessary to support the completion, carrying, signing, filing, and mailing of paper manifests and data.

A number of other significant benefits also will be realized that are equally important, if not more important, to the hazardous waste program. An e-Manifest system will improve the overall effectiveness of the national hazardous waste tracking system and thus, provide increased protection to human health and the environment. I would like to highlight a few of these benefits.

First, an e-Manifest will produce better quality data and more timely information on waste shipments. The e-Manifest will be developed with automatic quality checks that

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<sup>1</sup> U.S EPA E-Manifest Alternatives Analysis document, November, 2009.



will identify data entry errors, and the EPA and states will likely avoid many of the data interpretation errors that result currently from illegible handwritten entries or from illegible copies.

Second, the e-Manifest system will make it possible to have improved tracking capabilities for waste shipments. Users will be able to check the status of shipments from electronic manifests as needed, and will no longer need to wait 30 days or more for paper copies to be mailed and processed before they can determine if their hazardous waste shipments have been delivered. This electronic tracking capability will also provide for more rapid notification of any discrepancies, delays, or other problems connected with a particular shipment.

Third, industry users will be able to rely on the national e-Manifest system as their single point of contact for both their federal and state-required manifest data reporting. Since all states will be able to link to the e-Manifest network, the submission of one e-Manifest to the national system also will supply copies to those state programs that now collect the paper manifest. Thus, there will be central reporting of manifest data. Program management also will benefit by having access to manifest data that can be imported easily into a federal or state agency's tracking system, without having to re-enter data from paper forms.

Finally, the full implementation of e-Manifest could foster new data management possibilities, such as simplification or consolidation of existing requirements and systems for biennial reporting of hazardous waste data, for reporting of hazardous waste export

and import data, and possible consolidation or streamlining of duplicative federal and state tracking systems.

#### **EPA DEVELOPMENT OF AN E-MANIFEST SYSTEM**

In January 2014, Congress appropriated the first funding dedicated to developing an e-Manifest system authorized under the Hazardous Waste Electronic Manifest Act. The agency has been moving forward aggressively to implement the Act.

During the last year, the EPA has developed system architecture plans which marks an important step forward in system development. EPA has worked extensively with industry and state users to address the issues they raised, such as addressing state and industry data access needs and data quality assurance. Through these discussions, the EPA learned about current industry operations and IT systems they use in conjunction with the current paper manifest. The EPA also learned details of users' expectations and requirements for ensuring proper integration/interoperability of the e-Manifest system with existing industry systems. Many of these technical discussions were held with Environmental Technology Council member companies. The EPA has also remained engaged with other stakeholders, including participating regularly in our state partner organizations' meetings (e.g. Environmental Council of the States), coordinating with DOT (including meetings with first responder and law enforcement groups), and through public meetings.

To realize the benefits of an e-Manifest system, stakeholders must use it, and to help ensure that use, a system must meet these stakeholders' needs. The e-Manifest process occurs as part of a live, commercial transaction within waste industry sectors composed

of a large, diverse, user base, consisting of approximately 160,000 waste handlers. There is a high transactional volume with approximately 10,000 - 18,000 manifests used per business day. Transactions will need to occur in a mobile environment, on loading docks and trucks where there can be limited network connectivity.

The EPA's development work is focused on ensuring those needs are met from day one of system deployment. To accomplish this, the agency is conducting user-centered design and development, and is utilizing agile software development methodologies. This approach embodies continuous improvement through pilots and testing, using iterative processes, and continued regular engagement with users and stakeholders throughout the process to provide ongoing opportunities for input. This type of software development will continue until a full scale system is complete and fully tested by all entities

The agency is actively engaged with the U.S. General Services Agency's "18F" government IT development support group. In September, the EPA completed an initial system demonstration. This focused on a key aspect of the system; the transaction at the end of the chain-of-custody when the hazardous waste arrives at the designated waste management facility, and where that facility signs the electronic manifest to verify that all the hazardous waste types and quantities were received. Getting the system to properly electronically execute this all important stage in the manifest transaction was an important first step. The EPA worked with several industry users to complete this initial system functionality.

The agency will continue to work closely with users and ensure interoperability with industry systems. The EPA will add more functionality in an incremental manner while

relying on existing enterprise systems where they are available with the objective of evolving to a minimum viable product (MVP), and providing continuous improvement for the lifetime of the system. By taking this iterative approach, the EPA will refine remaining uncertainties from our architecture planning work in the most cost-effective manner. Research has shown that using this type of lean start-up methodology, with agile techniques lowers the cost of current and future system development by addressing uncertainties sooner rather than later, and by ensuring that the work being completed brings real value to stakeholders and users.

The agency will also utilize modular contracting strategies, which align with the iterative development approach and minimize costs by breaking investments into smaller components. This will drive more competition, and allow smaller businesses to compete more easily. The EPA will engage multiple vendor teams and services with specialized capabilities to cost effectively evolve the system from beginning to a mature product.

Below are the EPA's major milestones planned for system development:

System Development

September 2015– initial system functionality completed;

Winter of 2016 – minimal viable product development;

Spring through fall of 2016 – early full scale development;

Fall of 2016 through winter of 2018 – rolling iterative releases/testing of system;

Spring of 2018 – national deployment (collecting user fees).

Besides system development, the agency has also made progress developing the necessary regulations to support the new program. The EPA published a final regulation in February 2014, authorizing electronic manifests, codifying that electronic manifests in the national system will be the legal equivalent of paper manifests. We are now working toward a proposed user fee regulation which will outline how the agency will design its fee system including which e-Manifest users will be charged fees, and how fees will be calculated. In these efforts we have engaged extensively with stakeholders, including frequently participating in industry and state meetings. This rulemaking is scheduled to be finalized in time to fully deploy the national electronic manifest system in spring, 2018.

Lastly, in August, 2015, EPA formally established the e-Manifest Advisory Board and submitted the Charter to Congress. The agency is in the final stages of the member selection process for the Advisory Board.

## **CONCLUSION**

The EPA continues to make progress on developing a hazardous waste electronic manifest system. An e-Manifest system will produce better tracking services for our citizens, better data for informed policy decisions and program management, greater accountability for how hazardous wastes are transported and managed, and provide significant cost savings to both the e-Manifest users and regulators. The EPA appreciates the support of Congress in enacting legislation to authorize development of a hazardous waste electronic manifest system, and looks forward to continued support to allow for

further development and completion of a hazardous waste e-manifest system. We are committed to keeping Congress informed of our progress.

Mr. SHIMKUS. Thank you very much. I am going to recognize myself for 5 minutes for the first starting of the questions. Before I do that, let me ask unanimous consent that members of the subcommittee have five legislative days to submit opening statements for the record. Without objection, so ordered.

To date, \$7.4 million has been appropriated for implementation and set up of e-Manifest. This number is \$1.4 million more than the legislation authorized and the President requested in his budget.

Can you tell us how much the Agency expended on the e-Manifest IT system and development so far from the fiscal year 2014 and the fiscal year 2015?

Mr. JOHNSON. Yes, sir. So we have spent \$2.5 million of the \$7.4 on system development activities. We have spent another \$1.4 on other non-system related e-Manifest activities like regulatory development, establishment of a FACA and so on. And we have \$3.5 million that remains unspent.

Mr. SHIMKUS. Thank you. EPA's personnel expenditures, professional IT staff dedicated to the system work, were these new hires or people who only worked on e-Manifest?

Mr. JOHNSON. OK, so we have eight FTEs that work exclusively on e-Manifest and they are a combination of new hires and people that have worked at EPA for some time.

Mr. SHIMKUS. Are they paid out of the Environmental Program Management Funds?

Mr. JOHNSON. No. They are paid out of the \$7.4 million that has been appropriated for salaries.

Mr. SHIMKUS. What about contract expenditures for that same period?

Mr. JOHNSON. OK, so the contract expenditures that we have had for the same period that have come from the \$7.4 have been exclusively used for e-Manifest.

Mr. SHIMKUS. How much has been spent on additional expenditures associated with implementing the overall e-Manifest Act such as personnel and contract expenses related to regulatory development—you kind of mentioned that earlier—e-Manifest Advisory Board, and other related activities?

Mr. JOHNSON. So we have spent in total, both personnel costs and other related costs with contractors on those two categories of \$1.4 million.

Mr. SHIMKUS. And these funds all came out of the \$7.4?

Mr. JOHNSON. They all came out of the appropriated dollars for e-Manifest specifically.

Mr. SHIMKUS. OK, great. As I understand it, EPA has \$4.9—well, that is a different number. You are saying \$3.5 million left in your response?

Mr. JOHNSON. Yes, sir. At the beginning of the fiscal year, yes, sir.

Mr. SHIMKUS. Right. How much of that—so that means, I am trying to get my math right here. How much of that \$3.5 million was spent on personnel and contract expenses related to regulatory development?

Mr. JOHNSON. OK, I will go through the numbers again. So we have been appropriated \$7.4.

Mr. SHIMKUS. Right.

Mr. JOHNSON. So \$2.5 million of that has been spent on system development and that includes both personnel and contract costs. \$1.4 have been spent on non-system program-related expenditures, leaving \$3.5.

Mr. SHIMKUS. Great.

Mr. JOHNSON. So a total of \$3.9 has been spent to date and a portion of those expenditures are for personnel and a portion of them are for contract costs.

Mr. SHIMKUS. Very good. How much of the appropriated funds are currently—well, I got that answer, currently unspent and what are EPA's plans for them?

Mr. JOHNSON. OK, so there is currently \$3.5 that was unspent at the beginning of the fiscal year and we have a lot of work ahead of us to do, so that \$3.5 is going to be used for a variety of system development activities. Our next, as I sort of have outlined in my written testimony, what we are really focused on right now is developing what in the IT world they call a minimum viable product in March. So our initial expenditures out of that \$3.5 are going to be focused on delivering that minimum viable operating system by next spring.

Mr. SHIMKUS. Thank you very much. Mr. Pallone, do you want to do an opening statement?

Mr. PALLONE. Sure.

Mr. SHIMKUS. The chair recognizes Mr. Pallone for 5 minutes.

**OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY**

Mr. PALLONE. Thank you. I know we tried to start 15 minutes later, but it doesn't always work out, so thank you, Mr. Chairman.

Mr. Chairman, unfortunately, this hearing is one more in a long line of hearings that focus on small issues while large and pressing issues remain unexamined and unaddressed. Our failing drinking water infrastructure, the backlog of Superfund sites in need of clean up, and the backlog of brownfield sites in need of redevelopment are just a handful of items this subcommittee should be focusing on. These issues are important to the American people, to public health, to the environment, and to the economy. But the Republican majority on this committee is simply looking at the periphery.

Last week's hearing focused on the small pot of technical assistance funding for drinking water systems, but not the big pot of infrastructure funding. Today's hearing focuses on a small pot of money to establish a headquarters manifest system, but not the funding needed to clean up sites contaminated with hazardous waste.

In tomorrow's hearing, we will look at low level nuclear waste, but not in service of real solutions for the large stores of nuclear waste putting communities at risk. And that is just in this subcommittee. If we look beyond, we see repetitive hearings to attack Planned Parenthood and women's health and other rehashing discredited legal arguments against the Clean Power Plan.



This great committee should be holding hearings on climate change, on drinking water, on brownfields and more. And I understand that we are having this hearing because the appropriators did not include funding for e-Manifest in this year's Interior Environment Bill. But if members were to examine that bill, you will see that the appropriators have cut funding for all sorts of important programs with bigger price tags and bigger impacts than e-Manifest. Funding for brownfields grants was \$35 million below the President's request. Funding for Superfund cleanup was \$65 million below the President's request. Funding for the Drinking Water State Revolving Fund was \$429 million below the President's request. And those funding levels, I think, are unacceptable. And these are issues we should be addressing in our hearing today.

Instead, we are here today about what EPA would do with \$7 million to establish an e-Manifest system. I suppose I should say a few words about the e-Manifest system since it is the subject of the hearing. Adopting an electronic system is a good idea and it should be funded. Users will see significant reductions in costs and the time it takes to comply with regulatory requirements. States will get better info more quickly and will avoid costs of data entry and first responders will get better access to information about hazardous shipments and so will the public. And the long-term benefits will far exceed the up-front costs.

The appropriators, in my opinion, are being penny wise and pound foolish in cutting funding for this program just as they are in failing to invest sufficient funds to address our backlog of contaminated sites and infrastructure it appears. So I hope this subcommittee can focus on these pressing issues in the coming months and I yield back. Thank you.

Mr. SHIMKUS. The gentleman yields back his time. The chair now recognizes the ranking member of the subcommittee, Mr. Tonko, for five minutes for his questions.

Mr. TONKO. Thank you, Mr. Chair. And I appreciate the opportunity to highlight how EPA's lack of funding is affecting EPA's ability to do important work on behalf of our nation's wellbeing.

Now Director Johnson, the President's budget request for fiscal year 2016 included, as you made mention, the \$7.4 million for e-Manifest programming, is that right?

Mr. JOHNSON. The \$7.4 that we had discussed previously was the sum of the appropriations received in fiscal years 2014 and 2015. The \$7.4 is the President's request for 2016.

Mr. TONKO. OK. And you had talked about some of the priorities with resources you have now. What would additional priorities be on your list if these available funds are directed to the e-Manifest program?

Mr. JOHNSON. Yes, so one of the things that the President's budget request in the last two fiscal years has done is to try to put forward a figure that would really take funding uncertainties out of the question. I can't underscore enough for the committee how difficult it is to manage in the face of extreme funding uncertainties for a large system that EPA estimates is probably going to cost in the neighborhood of \$16 to build. And so the President's budget has tried to take that out of the equation.

We have a number of things that we have to do to build a system. The first thing that we are going to be doing is working toward developing what we refer to as the minimum viable product in early next year and part of that will involve working with user authentication. We will be developing security infrastructure around the software. We will be implementing quality assurance and quality control procedures for the data that are coming in. We are going to be focusing on the transaction that occurs at the designated facility at the TSD. This is the location that involves the least number of people, but the most number of users, so we think it is a very critical part of the system functionality.

We are going to be basically developing that portion of the system between now and next spring. When we do that, that will be a core set of capability that we can then add additional modules to. So after we get past next spring, then we will be going into other areas like, for example, other modes of transportation. We will initially focus on truck traffic. We will be moving into the rail arena. We will be adding bandwidth to the system, its ability to—you have to remember we may be receiving up to 25,000 manifests a day as potential receipts. So we have to have the bandwidth, the physical infrastructure. There is a number of additional build-out capabilities that we will need to do as we go beyond that core system into the larger system.

Mr. TONKO. Thank you. And that functionality of which you speak is directly related to the House response. And unfortunately, the House Republican appropriators recommended that e-Manifest programming receive no funding in fiscal year 2016 and even worse, e-Manifest is only one of many programs that will seriously be unfunded if the House Republican majority gets its way.

So for example, funding for drinking water infrastructure, which is a pressing need for communities across our country will fall drastically short of what the President has requested. And as I said in my opening statement, this year's proposal or the proposed cut funding for the drinking water SRF by \$150 million below this year's funding is a concern, and by \$429 million below the President's 2016 budget request. With a backlog and infrastructure needs estimated at \$387 billion, this proposal falls far short of what we should be investing.

So Director Johnson, I know that drinking water infrastructure is not managed by your office, so I want to ask you how these dramatic cuts would affect EPA's ability to ensure safe drinking water? But I do think we all know that these funding levels will mean more deferred maintenance, more water main breaks, more boiled water advisories, and generally more disruption for communities across the country. What I will ask you is whether, in general, you think the EPA's mission is important and what your support is giving the Agency towards the resources necessary to protect human health and the environment?

Mr. JOHNSON. Yes, I mean absolutely.

Mr. TONKO. Your agenda obviously speaks to that mission and what I am hearing here is that you will be falling short of the appropriations required to do your work.

Mr. JOHNSON. I am not from the Drinking Water Program, so I can't specifically—

Mr. TONKO. Right.

Mr. JOHNSON. I am not familiar with the particulars of that. I am from the Waste Program. I mean I obviously come here with a great deal of passion in support of EPA's mission to protect human health and the environment. I think that is something we all at EPA are trying to do.

Mr. TONKO. I thank you. With that, Mr. Chairman, I yield back.

Mr. SHIMKUS. The gentleman's time has expired. The chair now recognizes the vice chair of the subcommittee, Mr. Harper from Mississippi, for 5 minutes.

Mr. HARPER. Thank you, Mr. Chairman. Mr. Johnson, thank you for being here and to lend your expertise. I think it would be safe to say that you believe this issue is very important that you are here testifying on, wouldn't you?

Mr. JOHNSON. Yes.

Mr. HARPER. And I don't think you would say this is a small issue as others have referred to. It is certainly very important to you in what you have to do.

Mr. JOHNSON. It is important. It is important to me. I have to deliver the product here.

Mr. HARPER. Right. Monitoring current paperwork that you have on the manifests, how many items are done each day? When you have a transport done, how many are you having to monitor and track right now, just doing your regular paperwork?

Mr. JOHNSON. OK, so the manifest system, the way it operates now, there are somewhere on the order of three to five million manifests that are managed in the country every year.

Mr. HARPER. And when you are doing that, you are having to also notify local law enforcement, perhaps, or the state authorities when there is something of particular significance, correct?

Mr. JOHNSON. So as part of the manifest system, there is formal notification of the states that occurs as part of the processing of the manifest.

Mr. HARPER. And when we move into this e-Manifest system, is that going to be a real time transaction? Is that the purpose of that so that when it is done who will have access to that?

Mr. JOHNSON. So the way our thinking is at the moment is that it is going to be very similar to when you send a package through the postal service. You go on the web and you can see the last transaction point. We are expecting to have a very similar kind of availability of information to the individuals who have shipped the waste, to the individuals that are handling the waste in transit, to the individuals that are receiving the waste on the end, as well as the states that are at the origin of the waste, where it is transported through and the end point. All of those individuals should have access to the transaction as it occurs if it is handled through the e-Manifest system.

Mr. HARPER. And if you are looking, obviously, it is an electronic system. Therefore, it is subject to cyber attack and you have to have that security system built into that. Are you satisfied with the progress that is being made on that at this point today?

Mr. JOHNSON. I am satisfied. We are going to be using the standard cyber security protocols and building to those criteria. We have hired a security expert to join our team recently, so it is an area

that I think many who work with IT systems are keenly aware of and something that we, too, are focused on.

Mr. HARPER. The heart of this, obviously, is public safety. It is how we protect the public through the transport of hazardous materials and solid waste.

Mr. JOHNSON. Right.

Mr. HARPER. And so at this point, do you believe that the development of the system is on track? Are you satisfied with where it is today?

Mr. JOHNSON. I am satisfied with where it is today.

Mr. HARPER. And there, of course, \$3.5 million remains of that money. How much do you believe will be used of that \$3.5 to continue with that system development? I know you have multiple needs for that money at this point that is unused. And you said the total cost that you think to get this system up and running was how much?

Mr. JOHNSON. Sixteen million is our present estimate at the moment.

Mr. HARPER. And that is over what period of time?

Mr. JOHNSON. That is between now and April of '18, spring of '18 when we intend to deliver the system. And that will be the point in time when we can start collecting fees and recover all of the dollars that have been appropriated.

Mr. HARPER. Has every appointment been made of the advisory board?

Mr. JOHNSON. We have established the advisory board and I would say within the next month to month and a half, we will be notifying the individuals that we have selected for the board.

Mr. HARPER. And three of those come from the states?

Mr. JOHNSON. Three of them come from the states.

Mr. HARPER. Who makes that selection? Are you making that selection?

Mr. JOHNSON. We have a panel. We have a set of criteria based on the particular criteria that are in the statute and we have a team that make a recommendation for the selection.

Mr. HARPER. Is the panel all within the EPA or private industry or all within the government?

Mr. JOHNSON. The selecting panel is all within EPA. However, members of the board themselves, of course, per the Act, come from the IT industry, come from the waste handling industry, and come from the states.

Mr. HARPER. The three states, will they be selected as the criteria, each from a different region or do they come from a particular background? Will any of them be industry related or will they all be—where will they come from?

Mr. JOHNSON. They have self nominated and put forward their background and their experience. And so we will look at what they have put forward in their application and use that to make a decision about how to—which ones to select. And certainly geographic distribution is certainly one of the criteria.

Mr. HARPER. Thank you. I am over time my time. I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The chair now recognizes the ranking member of the full committee, Mr. Pallone for 5 minutes.

Mr. PALLONE. Thank you, Mr. Chairman. As I mentioned during my opening statement, I support the e-Manifest program. I think it should be funded. Perhaps better tracking of hazardous waste will mean less contamination of our land. But towns and states across the country are already dealing with a large backlog of sites contaminated with hazardous waste and other pollutants. And I don't understand why we are holding a hearing about \$7 million for the e-Manifest program and ignoring the tens of millions of dollars needed to clean up contamination.

The brownfields program which has historically received bipartisan support promotes job growth, protects the environment and safeguards the health of our communities. However, the funding for brownfields continues to decrease. In fiscal year 2015, EPA received \$80 million for the brownfields program, \$5 million lower than the requested funding level. For fiscal year 2016, the President's budget recommends an additional \$30 million for a total of \$110 million. However, the appropriators have recommended only \$75 million for the brownfields program, even lower than the funding level enacted in fiscal year 2015.

So Mr. Johnson, am I correct that these funding levels fall far short of what was included in the President's budget?

Mr. JOHNSON. Mr. Pallone, I am of course, director of the EPA's Waste Programs. I am not with the brownfields and the Superfund program, but my understanding of the information that you just expressed is consistent with my understanding. I know the President's fiscal year 2016 budget proposal came in with increases for both Superfund and brownfields so that those programs could deliver the great work that they do in terms of job creation, economic redevelopment, and protecting our communities. And having worked in the Superfund program myself for more than seven years as deputy director of the Remedial Program at EPA, I sort of understand that first hand.

And I also know firsthand that those programs are exceptionally scalable and have shown in the past that when additional funds are appropriated, they deliver great benefit to the communities that they serve.

Mr. PALLONE. Thank you, Mr. Johnson. Let me ask about e-Manifest. If EPA does not receive funding for this work in fiscal year 2016, will development and implementation of the system be delayed?

Mr. JOHNSON. So if we don't receive money in fiscal year 2016, it will certainly jeopardize the velocity with which we can go forward.

Mr. PALLONE. OK.

Mr. JOHNSON. And we are constantly juggling the speed at which we are able to do system development based on what we think is the availability of funds.

Mr. PALLONE. Well, more generally, when Congress fails to fund EPA programs like e-Manifest or brownfields, can we expect implementation to happen on schedule? Or even to happen at all?

Mr. JOHNSON. Well, we certainly can't keep our schedules up if we don't have the funding that is needed.

Mr. PALLONE. All right. Thanks. I mean it just seems to me that Republicans in the House want to cut funding every year and then

they complain that the EPA is falling behind. If we value toxic waste clean ups, drinking water infrastructure, and other EPA initiatives that protect human health, the environment, and the economy, we should ensure sufficient funding. And I think these are issues that matter to the American people. I know they matter to my constituents. And they should matter to the majority. So I hope we can focus more on these issues moving forward, Mr. Chairman. And I yield the balance of my time.

Mr. SHIMKUS. Will the gentleman yield for one second?

Mr. PALLONE. Yes.

Mr. SHIMKUS. So I think that is part of the debate we are actually having this morning and the conference we are going to have on the floor, I think tomorrow in the Bipartisan Budget Act agreement with the administration. The revised nonsecurity will go from \$493 billion to \$518 billion. That is fiscal year 2016. In fiscal year 2017, the revised nonsecurity dollars will go from \$531 billion. There is going to be more money for the revised nonsecurity if this budget agreement—it is 2 years, which would mean there would be some certainty. So we will see what happens on the floor.

Mr. PALLONE. We hope we get a big vote from the Republican side.

Mr. SHIMKUS. I wouldn't bet a big one. Thank you. I yield to my colleague, Mr. Murphy from Pennsylvania, for 5 minutes.

Mr. MURPHY. Thank you, Mr. Chairman. Thank you for being here. This is a fascinating process to me. In Western Pennsylvania, we have a great deal that also results from mining, from fracking, nuclear areas. These are all issues, medical wastes, et cetera. They need to be tracked. Just a couple of questions I have on this. I am trying to understand this whole system. Can you walk me through how this all works, the computer systems, the architecture of this?

If I understand from your testimony, you talked about how basically the manifest follows the trucks, correct? And even from that it depends on someone to give the driver an accurate record of exactly what is in there, am I correct? And that is all kept on computer files? And then that is turned over at the site of the waste site.

How do we make sure that what is in that manifest is what is in the truck? Something real basic like that.

Mr. JOHNSON. So I will try to explain the way the system works today and the paper manifest and then talk about how we hope that it will, and we expect that it will, operate in an e-Manifest system.

So today there is a six-copy form that is used to create and document the chain of custody that occurs from the point of generation where the waste is first created, hand it off to the transporter. The transporter then sends the material to the designated facility where it will be stored, treated, or disposed. And then that form is sent back to the generator so that the TSD at the end, the designated facility at the end, confirms that what the generator thought they sent to them actually made it.

Mr. MURPHY. And this is what you are saying can be up to 700,000 hours of paperwork?

Mr. JOHNSON. Pardon me?

Mr. MURPHY. This is where you say that could be up to 700,000 hours of paperwork? It is pretty burdensome.

Mr. JOHNSON. Yes, yes, absolutely. And there is a copy of copies go to the state where the generator is, the state where the receiving facility. So that is how all the paperwork manifests works today.

The electronic manifest, this transaction will occur electronically. And so it will occur on mobile devices perhaps. And there will be again a chain of custody that occurs. EPA has a system called the—we refer to as the chrome air rule, but it basically is a system of user authentication that ensures that the person who signs the electronic device is actually the person of record. So we will follow the exact same process that occurs—

Mr. MURPHY. Now all those things in place, so that this was supposed to have been up and running a couple of weeks ago. Are all the elements in place or is there a specific list of items you have that still have to be done? And let me add to that because we have had an Energy and Commerce Committee, a number of hearings on other electronic systems that are supposed to be up and running. And they weren't because the bugs were not tested before it was fully implemented. So I need to know if you can give me a list of some specific items yet to be ready. And then is EPA going to test this and do a test run of this, too?

Mr. JOHNSON. Yes. All great questions. So the system is not up and running. We do have a key portion of the system that is up and running that we developed and got going that relates to that final transaction where the TSD confirms that what they received actually is that. So we have that piece. But we have to do the build out for the rest of the system. And so there is a number of pieces there that we have to work on, the transaction at the generator, the transporter. We have to have a system for paper processing. We haven't talked about that, but the e-Manifest Act allows people to continue to do paper processing. We have to have interfaces so the states can access and acquire this data. We have been working very closely with the user community. We have been, shall I say, joined at the hip with a variety of waste management companies to learn the kinds of systems they already use so that we can have software components that speak directly with their existing software systems. So we have those pieces to build out. But we have been actually in very close and regular communication with the hazardous waste management industry on the structure and the functionality of this system, learned a great deal from them.

Mr. MURPHY. So in the final seconds I have left, I just want to make sure this is something—so you have done some work on this, but any more test runs are going to be needed?

Mr. JOHNSON. Absolutely. The whole notion of what we are going to be doing is developing small pieces, testing those, develop small pieces, testing them, getting them out to the user. One of the reasons why IT systems have failed in the past is that they are sort of really done apart from the user community. And we are actually committed to every step of the way working right alongside with our user community, having them test software in real time. In fact, the software that we developed in September is available to the public. We have given it to a number of members of the waste

management community. They have given us immediate feedback on things we got wrong, things we need to improve. So we are staying very closely tied in with the user community.

Mr. MURPHY. It is a great idea to develop that with the user community. I hope other agencies use that. Thank you. I yield back.

Mr. SHIMKUS. The gentleman yields back. The chair now recognizes the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. GREEN. I want to thank the chairman and the ranking member for holding the hearing today. Like a lot of members, I am disappointed that since it is not up and running, Chairman Shimkus and I sponsored the e-Manifest system when the subcommittee held hearings and supported passage of the Hazardous Waste Electronic Manifest Establishment Act. The e-Manifest Act was passed with strong bipartisan support, support from the industry, environmental community because its benefits are so obvious, reducing paperwork, lowering the administrative burden on regulators and industry, saving tens of millions of dollars annually and improving the tracking and management of our nation's hazardous waste.

It has been over 3 years since e-Manifest was signed into law. I am pleased to get an update on the status and see what Congress and EPA can do to ensure that promised benefits of e-Manifest are delivered as soon as reasonably possible. Maybe our subcommittee should have had some hearings earlier so we could get an update and see what the problem was.

Mr. Johnson, e-Manifest system protected to save over \$75 million and thousands of hours per year once implemented. However, you mentioned some of the noneconomic benefits in this system. Can you elaborate on these noneconomic benefits?

Mr. JOHNSON. Yes, sir. So we expect a number of them. I think one of the great things will be the immediate accessibility to information. We will have access to e-Manifest information like we simply don't have right now. The e-Manifest data other than in some of the states that takes very special efforts to collect and acquire that information, we really don't have it at our fingertips. I think the quality control will be much improved.

You have to realize there are over 270 data elements on up to 3 to 5 million of these transactions occurring every year. So being able to do much better quality control, I think will have ripple effects through the hazardous waste management system and bring new accountability to the management of hazardous waste in general.

Mr. GREEN. Can you describe who the primary stakeholders are on this issue and how you would involve them?

Mr. JOHNSON. Absolutely. So our primary stakeholders, of course, are the states. We have worked very closely with a number of states, and particularly those states that have systems right now of acquiring manifest data through the paper system. We have been working very closely with that.

Of course, the state association, ASTSWMO and ECOS, we have been working very closely with; on the industry side, the whole transactional environment, so the generator community, the transportation community, as well as the treatment, storage, and disposal facilities. So we have been working with the Environmental Technology Council which is an association that represents many



of the larger hazardous waste management facilities. We have been working with particular businesses like Safety Clean and other hazardous waste management facilities, working with them, working with their IT departments.

Mr. GREEN. I represent a district in Houston, we have a number of the customers who would like to have that and you mentioned some of them. How would lack of funding for fiscal year 2016 affect your ability to get the system on line by 2017?

Mr. JOHNSON. Well, I think it will have an important adverse effect on us. We are really adjusting the velocity, the speed of our development activities based on the funding that we have available to us. And under the funding uncertainty that we are presently dealing with, we are being cautious in the speed at which we move forward.

Mr. GREEN. Given the benefits of the system often the costs to develop are more than justified. The same is true for much needed water infrastructure repairs, brownfields, Superfund funding. I share the concern voiced by my colleagues on this subcommittee in failing to address the big issues that have an impact on our working families. Congress must invest in our infrastructure before it fails and I hope the subcommittee will focus on infrastructure needs in the coming months.

Mr. Chairman, I will yield back my 38 seconds.

Mr. SHIMKUS. The gentleman yields back his time. The chair now recognizes the gentleman from West Virginia, Mr. McKinley, for 5 minutes.

Mr. MCKINLEY. Thank you, Mr. Chairman, and thank you, Mr. Johnson, for appearing here today. It is my understanding—

Mr. SHIMKUS. Would the gentleman yield for a second? Can you pull your mic a little bit closer? The gentleman from Texas cannot hear you and he wants to.

Mr. MCKINLEY. It is my understanding that the total funding for this could be, you are saying, in the \$16 million range?

Mr. JOHNSON. We are presently estimating, based on what we know now, that the cost of the system to be \$16 million.

Mr. MCKINLEY. OK, so what was your projection of the cost to have outsourced this? What could they have done in the private sector?

Mr. JOHNSON. Absolutely. One of the things that when the e-Manifest Act passed, we had the same sense of urgency that I am feeling from the committee today.

Mr. MCKINLEY. What is the answer to the question? What do you think the outsourcing would have cost if you had done it with private sector?

Mr. JOHNSON. We don't know.

Mr. MCKINLEY. So somebody decided to do this in-house without having a—

Mr. JOHNSON. No, the first thing that we did, the very first thing that we did was we went out and talked to every individual that had systems like e-Manifest. So the knee jerk reaction, go talk to FedEx, talk to Amazon, talk to IBM, talk to all the big companies out there, the Postal Service, to talk to these folks. We went and talked to all of them.

Mr. MCKINLEY. I am concerned about this time. This was passed in '12 and it is 3 years later and you are saying it may not be finished for two more years. So I think we have got an issue here overall, whether it was good judgment or bad judgment as to try to do it in-house. And I think the GAO came out in its own report has been very concerned about the use of in-house IT work right now with numbers of cancellations.

Mr. JOHNSON. We are not going to be doing in-house, sir.

Mr. MCKINLEY. I have only got 5 minutes.

Mr. JOHNSON. OK.

Mr. MCKINLEY. So Mr. Shimkus asked Ms. Rudzinski back in 2012, how long do you think it is going to take to do this? And she said if we use very conventional procedure approach, typically in 12 to 18 months. That is 12 to 18 months. We are 3 years later and you are saying it may be another 2 years to go. So was she wrong?

Mr. JOHNSON. I believe she was responding to the length of time it takes to get a contract in place. We are not going to be doing this in-house. We are going to be using contractors.

Mr. MCKINLEY. Rules on that as well. Let me go a little further. I think you have got a problem. It could be over funding. It could be maybe incompetency perhaps in taking this out. I don't know what your qualifications are, or people that are writing your specifications for this. Are these people that have failed on others? Are you using tech stacks?

Mr. JOHNSON. Excuse me, sir?

Mr. MCKINLEY. Tech stacks?

Mr. JOHNSON. Yes.

Mr. MCKINLEY. You are using them.

Mr. JOHNSON. I am not sure—

Mr. MCKINLEY. It is an OMB program for software development.

Mr. JOHNSON. It is a certification program?

Mr. MCKINLEY. It is reviewing, the status monitoring, scheduling of development of software like this. And I am just curious, you are not familiar with it, so you are apparently not using it. And OMB has been recommending to the IT department that they should be using this and it sounds like you are not using it.

The other thing that I think in answer back to Congressman Murphy's comment, I didn't hear you use the term IV&V, independent verification and validation, is a way to check for issues as you go. Are you using IV&V?

Mr. JOHNSON. I will ask the technical team.

Mr. MCKINLEY. So if you have opted—that is pretty incredible—so if you have opted without having other costs incurred, I am going to do this in-house, even though if again the GAO has said, they have rattled off this list in their report, Department of Defense canceled their contract five years after spending billions of dollars. Homeland Security, they canceled that contract after a billion dollars. Veterans Affairs—I could go on and on of there is some real questions of whether or not our IT is capable of writing the kinds of specifications to put these things back out in the software. And apparently, they seem to be recommending that we consider using outsourcing and I don't hear, you have already acknowledged you had no idea what the outsourcing cost could be, but you decided to do it in-house.

Mr. JOHNSON. No, we are outsourcing this work.

Mr. MCKINLEY. I thought you said you were doing it with eight people on your staff?

Mr. JOHNSON. We, of course, have internal staff who are also outsourcing the work using modular contracting strategies, agile development. That is what we intend to do.

Mr. MCKINLEY. I am running out of time here. So in the future, if this has been going on for 3 years, are we going to be able to get some monitoring of this, to see some mileposts that we are getting something done in a time frame, the costs, how the costs are being incurred with this? Where is the transparency that we were supposed to get?

Mr. JOHNSON. We are prepared to be very transparent.

Mr. MCKINLEY. This is the first report we have heard from you in 3 years.

Mr. JOHNSON. I am happy to report to the committee as they see fit on progress throughout the development.

Mr. MCKINLEY. Mr. Chairman, I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The chair now recognizes the gentleman from Texas, Mr. Flores, for 5 minutes.

Mr. FLORES. Thank you, Mr. Chairman. Mr. Johnson, if a state has not delegated enforcement of Subtitle C, what is the requirement on the manifest once it has been verified by the disposer?

Mr. JOHNSON. I am sorry, Mr. Flores, could you please repeat the question?

Mr. FLORES. Yes. If a state has not delegated enforcement of Subtitle C, what is the requirement on the manifest once it is verified by the disposer?

Mr. JOHNSON. So I think I will have to get back to you. I hesitate to respond on the record on a complex state authorization issue. So I will get back to you on that.

Mr. FLORES. I ask you to provide that answer for the record. And can you give the subcommittee a specific list of items that need to be done in their timeline so that we can understand what stands between now and the system being fully operational?

Mr. JOHNSON. Absolutely. So our first task that we are going to be focusing on between now and next spring is developing the core software system that we refer to as the minimum viable product. And this going to focus on the software functionality that occurs around the receiving facility, the designated facility, the TSD. We will develop basic security infrastructure, basic user authentication. We are going to be using our electronic signature protocols in that verification. Have it so that the TSD can receive information and send out information, confirming the receipt of the waste. So that is our first core comprehensive deliverable following what we developed in September.

Then following this spring, we will be building out additional pieces of the system. So we have to have a paper tracking system. We have to develop APIs, application programming interfaces, for our states. We have to have user interfaces that we have to develop for the system, data handling systems, that sort of thing.

And then we have to, as I said, grow the ability of the system to operate with a much larger bandwidth than we will in the devel-

opment cycle. So those are examples of some of the things that we have to do down the road.

Mr. FLORES. And in terms of the rulemaking, what is the status of fee setting for system users?

Mr. JOHNSON. So we are in the final stages of clearing what we refer to as our fee rule. That will be, we expect to be proposed early next year. And in that rule, we are going to lay out the structure of our fee collection system.

Mr. FLORES. Thank you for your responses. I look forward to the answer to the first question for the record.

Mr. JOHNSON. Yes.

Mr. FLORES. Mr. Chairman, I yield back the balance of my time.

Mr. SHIMKUS. The gentleman yields back his time. The chair now recognizes the gentleman from North Carolina, Mr. Hudson, for 5 minutes.

Mr. HUDSON. Thank you, Mr. Chairman. Thank you for holding this hearing today which allows us to be updated on the implementation of this important program.

Mr. Johnson, thank you for being here and sharing your testimony. My first question for you is has the EPA determined how e-Manifest will apply to hazardous waste shipments by rail?

Mr. JOHNSON. We have not fully determined that. Of course, there is an existing electronic system that is used to track the movement of hazardous materials under DOT's program. We have been talking to the rail industry and we are well aware that we have to develop some linkages with their existing system.

Mr. HUDSON. Well, I appreciate that. There is a tremendous amount of this waste, to my understanding, that is shipped by rail. So I think it would be important that we include that.

My next question is how will EPA strive to protect legitimate confidential business information reported as part of this system as the e-Manifest system?

Mr. JOHNSON. Yes, this has been an issue for us and one that we grappled in our one-year rule. And EPA's thinking is that one of the, I think, key tools that we are going to be using to handle confidential business information is that other than the parties that are directly involved in the transaction, we are going to have a 90-day delay period before we make the manifest information publicly available.

EPA has made a determination that we don't believe that generally manifest information is CBI, but we do know that it has important commercial value, so we think that by delaying the time between when the transaction occurs and its publication for the broader public to see, that that will help ameliorate any concerns that have been raised in this regard.

Mr. HUDSON. I appreciate it. Could you help me understand more broadly sort of what are the issues that arose that caused this delay in the time frame? Just help me understand why it has taken so long?

Mr. JOHNSON. Yes, absolutely. So when the law was passed and EPA immediately had a sense of urgency about building the system, the very first thing that we did is we went out—it was really one of two silver bullets that had to come forward if we were going to meet this 3-year deadline. We were either going to find a vendor

out there that had an existing system that we could basically take and adapt. So we went out and we talked to Amazon, to the Postal Service, to FedEx, and all of the people that you think naturally and we all know have software systems that are out there that do kind of what e-Manifest is intended to do. All of those companies came back to us and said look, we are in the package movement business. We are in the retail business. We are not in the software sales business. This is part of our intellectual property and we are not selling it to anybody. So that was a dead end for us.

The other thing that we had hoped was a thought that had been part of the legislation which is a share and share and saving share in revenue or other strategies for intellectual property sharing with people so that we could kind of get going. We pursued that. The legislation, as it was finally passed, didn't have the full authority for that, particularly with the appropriations coming through, having to come through every year. So that was not something that we could work on.

Once we sort of got to the bottom of those two things through pretty extensive conversation with the vendor communities out there, we are going to have to hire contractors and use this agile modular contracting strategy to get this done. So that is really, I think, one of the biggest reasons why we are where we are today was we really tried to pursue these silver bullets. They didn't work out. Now we are on a track using what all the research says is the most cost effective, efficient way to build IT systems.

Mr. HUDSON. All right. One final question. What did you learn from September's initial demonstration of the system? Did it meet your expectations? Why or why not?

Mr. JOHNSON. Absolutely. It certainly met our expectations. We were really pleased with the outcome. I think we learned a number of things. One of the things is we learned how useful our user community is in identifying errors. They were not shy about telling us when we had mistakes and errors and things that we needed to correct. We immediately went in and through the sprints that you go through in the agile development process, we were able to get the speed back and fix the software in a real time basis. So that was one of the things that we learned.

We learned that we needed a data model and we need to do a little bit better explanation of our software and how it operates, so a little bit more communication when we put these modules out to get the private sector to react to and use and try to interface with their systems.

Mr. HUDSON. Thank you, Mr. Chairman. My time has expired. I yield back.

Mr. SHIMKUS. The gentleman yields back his time. Just a point or two that wasn't really discussed. One of the big issues, the reason why we wanted to do this was the storage, all the paper that is stored in file cabinets and buildings for this documentation. So there was a desire to get it digitally stored. I know that is all part of the process.

Seeing no other members wishing to ask any questions I want to remind Mr. Johnson that the hearing record will remain open for ten legislative days for anyone else who may wish to submit a

follow-up question. And we want to thank you for coming and we will call this hearing adjourned.

[Whereupon, at 11:21 a.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

FRED UPTON, MICHIGAN  
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY  
RANKING MEMBER

ONE HUNDRED FOURTEENTH CONGRESS  
**Congress of the United States**  
**House of Representatives**  
COMMITTEE ON ENERGY AND COMMERCE  
2125 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515-6115  
Majority (201) 225-2037  
Minority (202) 225-3641

November 18, 2015

Mr. Barnes Johnson  
Director  
Office of Resource Conservation and Recovery  
Office of Solid Waste and Emergency Response  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20004

Dear Mr. Johnson:

Thank you for appearing before the Subcommittee on Environment and the Economy on Tuesday, October 27, 2015, to testify at the hearing entitled "E-manifest: An Update on Implementation."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

Also attached are Member requests made during the hearing. The format of your responses to these requests should follow the same format as your response to the additional questions for the record.

To facilitate the printing of the hearing record, please respond to these questions and requests with a transmittal letter by the close of business on Wednesday, December 3, 2015. Your responses should be mailed to Will Batson, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed to [Will.Batson@mail.house.gov](mailto:Will.Batson@mail.house.gov).

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



John Shimkus  
Chairman

Subcommittee on Environment and the Economy

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment and the Economy

Attachments



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

DEC 11 2015

OFFICE OF  
CONGRESSIONAL AND  
INTERGOVERNMENTAL  
RELATIONS

The Honorable John Shimkus  
Chairman  
Committee on Energy and Commerce  
Subcommittee on Environment and Economy  
House of Representatives  
Washington, D.C. 20515

Dear Mr. Chairman:

Enclosed please find the U.S. Environmental Protection Agency's responses to the Subcommittee's questions for the record following the October 27, 2015, oversight hearing titled "E-manifest: An Update on Implementation."

I hope this information is helpful to you and the members of the Subcommittee. If you have further questions, please contact me or your staff may contact Raquel Snyder in my office at [Snyder.Raquel@epa.gov](mailto:Snyder.Raquel@epa.gov) or (202) 564-9586.

Sincerely,

A handwritten signature in black ink, appearing to read "Nichole Distefano".

Nichole Distefano  
Acting Associate Administrator

Enclosure



**Committee on House Energy and Commerce  
Subcommittee on Environment and the Economy  
Hearing on**

**"E-manifest: An Update on Implementation"**

**Tuesday, October 27, 2015**

**Question from the Honorable Larry Bueshon**

1. Indiana does not have a manifest system. The state of Indiana does annual inspections of hazardous waste generators, treatment, storage, and disposal facilities during which the manifest records are checked. Under the E-manifest system, would the Indiana Department of Environmental Management be able to access the manifest documents of the participating generators, treatment, storage, and disposal facilities in the state? And, would they have to pay for access to the information?

Answer: Yes, the state would have access. Once the e-Manifest program and system are operating nationally, states will have access to all manifests within their jurisdiction. State access will likely be granted through a web based application. States will not be able to enforce electronic manifests under their law without state authorization. To accomplish this, states would need to change existing state laws or regulations to comport with the Environmental Protection Agency's (EPA) electronic manifest regulation published in February, 2014:

<http://www.gpo.gov/fdsys/pkg/FR-2014-02-07/pdf/2014-01352.pdf>.

Regarding payment, the EPA is currently conducting a rulemaking to establish the fee structure for the e-Manifest system. The EPA has been working closely with states and industry users in drafting the proposed rule, which is scheduled for completion in the spring of 2016. The EPA does not anticipate that states will be required to pay for access to the e-Manifest information.

**Question from the Honorable Bill Flores**

1. If a state has not been delegated enforcement of Subtitle C, what is the requirement on the manifest once it has been verified by the disposer?

Answer: Only two states, Alaska and Iowa, are currently not delegated or authorized to implement and enforce the Resource Conservation and Recovery Act (RCRA) Subtitle C. Regardless of whether a state is authorized, in the current paper-based manifest process, all designated treatment, storage, and disposal facilities (TSDF) must mail a copy of the manifest to the generator, and retain its copy as a record for inspection for three years.

When the e-Manifest system/program is implemented all manifests must come to the EPA (either paper or electronically), regardless of whether a state is authorized or not. Manifests will be filed in the EPA's centralized databases and the manifest and its data will become available for all appropriate handlers to view (states, generators, etc). The requirements for the manifest to document chain of custody, including the requirement that a TSDF must return a copy of the manifest to the generator will remain a requirement of the e-Manifest system, but the process will be handled electronically.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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Subcommittee on Environment and Economy  
House of Representatives  
Washington, D.C. 20515

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Sincerely,

A handwritten signature in black ink, appearing to read "Nichole Distefano", is written over a horizontal line.

Nichole Distefano  
Acting Associate Administrator

Enclosure

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Subcommittee on Environment and the Economy  
Hearing on**

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